

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
19 May 2005 (19.05.2005)

PCT

(10) International Publication Number
WO 2005/044774 A1

(51) International Patent Classification⁷: **C07C 67/04,**
69/145

(21) International Application Number:
PCT/US2004/022075

(22) International Filing Date: 8 July 2004 (08.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/486,781 11 July 2003 (11.07.2003) US

(71) Applicant (for all designated States except US): **LOYOLA
UNIVERSITY OF CHICAGO** [US/US]; 820 N. Michi-
gan Avenue, Chicago, IL 60611 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **BABLER, James, H.**
[US/US]; 1816 West Estes Avenue, Chicago, IL 60626
(US).

(74) Agent: **HULL, Michael, R.**; Marshall, Gerstein & Borun
LLP, 6300 Sears Tower, 233 South Wacker Drive, Chicago,
IL 60606 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HN, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: PROCESSES FOR SYNTHESIZING ESTERS BY 1,4-ADDITION OF ALKANOIC ACIDS TO MYRCENE OR ISO-
PRENE

(57) Abstract: Processes are disclosed for synthesizing esters useful in flavorings and fragrances from β -pinene, myrcene and/or
isoprene. The esters can be used in the manufacture of citral, precursors to citral and other products or precursors such as vitamins,
nutritional supplements, flavorings, fragrances and other products. The process includes a 1,4-addition of an alkanolic acid to the
conjugated diene of myrcene (which can be generated from β -pinene) or the conjugated diene of isoprene to produce esters thereof.



WO 2005/044774 A1